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09/993,050	11/14/2001	Josef W. Tichy	A34752	8142

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EXAMINER

OCAMPO, MARIANNE S

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 04/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/993,050

Applicant(s)

TICHY, JOSEF W.

Examiner

Marianne S. Ocampo

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

P r i o d f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 18 is/are rejected.
- 7) ☒ Claim(s) 16-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4-5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Foreign Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on 11-15-00. It is noted, however, that applicant has not filed a certified copy of the DE 10056518.2 application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 – 2, 13 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Fendya et al. (US 5,679,249).

disclose a filter plate (148) comprising a body (161) having at least one flow path (163) for fluid to be filtered and a filter medium arrangement (162) arranged in the at least one flow path and connected to the body (161) and the filter medium arrangement (162) being connected

to the filter plate body (161) by heat sealing (i.e. sintering), welding or by means of a solvent or an adhesive (i.e. gluing and/or bonding), as in col. 8 and in figs. 2 - 4.

5. Concerning claim 2, Fendya et al. also disclose the filter medium arrangement (162) comprising at least one filter medium layer formed by a filter *fabric* (i.e. porous woven/mesh fibrous media), as in figs. 2 - 4 and in col. 8.

6. With regards to claim 13, Fendya et al. disclose a method of producing a filter plate according to claim 1 (see paragraph 7 above) comprising the step of connecting the filter medium arrangement (162) to the filter plate body (161) by heat sealing (i.e. sintering), welding or by means of a solvent or an adhesive (i.e. gluing and/or bonding), as in col. 8 and in figs. 2 - 4.

7. Regarding claim 18, Fendya et al. also disclose a method of using at least one filter plate (148) according to claim 1 (see paragraph 7 above) comprising the step of incorporating said filter plate (148) into a rotary filter (101, 105) for fine filter media (162) to separate fine solids from suspensions by pressure or vacuum filtration or combined vacuum-pressure filtration, as in cols. 1 - 20.

8. Claims 1, 9 - 10, 13 - 14 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Ahlberg Jr. et al. (US 4,925,557).

9. With respect to claim 1, Ahlberg Jr. et al. disclose a filter plate (30) comprising a body (32, 31) having at least one flow path for fluid to be filtered and a filter medium arrangement (37) arranged in the at least one flow path and connected to the body (31) and the filter medium arrangement (37) being connected to the filter plate body (31) by welding (a form of bonding or soldering), as in col. 4 and in figs. 2 - 5.

10. Regarding claim 9, Ahlberg Jr. et al. also disclose the filter medium arrangement (37) comprising at least one filter medium layer made of a porous sintered material, as in cols. 1 - 5 and fig. 3.

11. Concerning claim 10, Ahlberg Jr. et al. further disclose the at least one filter medium layer (37) being made of a sintered metal (membrane), as in col. 4.

12. With regards to claim 13, Ahlberg Jr. et al. disclose a method of producing a filter plate according to claim 1 (see paragraph 12 above) comprising the step of connecting the filter medium arrangement (37) to the filter plate body (31) by welding (a form of bonding), as in col. 4, lines 51 - 56.

13. Regarding claim 14, Ahlberg Jr. et al. further disclose the filter medium arrangement (37) comprising a layer of sintered metal/material and the method further comprising the step of subjecting the layer of sintered material/metal to a surface treatment (which is the

fusing/covering of a controlled pore size plastic membrane on its surface and outer edge) prior to connection thereof, as in cols. 1 – 5.

14. Concerning claim 18, Ahlberg Jr. et al. disclose a method of using at least one filter plate (7, 30) according to claim 1 (see paragraph 12 above) comprising the step of incorporating said filter plate (7, 30) into a rotary filter (1) for fine filter media (37) to separate fine solids from suspensions by pressure or vacuum filtration or combined vacuum-pressure filtration, as in cols. 1 – 5.

15. Claims 1 – 4, 6, 8 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kasten (US 3,737,036).

16. With regards to claim 1, Kasten discloses a filter plate comprising a body (innermost mesh at the core 32, 30) having at least one flow path for fluid to be filtered, and a filter medium arrangement (28, 32) arranged in the at least one flow path and connected to the body and the filter medium arrangement being connected to the body by soldering or any suitable bonding process (welding, brazing, etc), as in cols. 1 – 4 and in figs. 6 – 7.

17. Concerning claim 2, Kasten also discloses the filter medium arrangement comprising at least one filter medium layer (28, 32) formed by a filter fabric (the term “fabric” has been

defined by the examiner to be any suitable woven or nonwoven mesh or cloth-like material), as in col. 3.

18. Regarding claim 3, Kasten further discloses the filter medium arrangement comprising a laminar structure of a plurality of fabric layers (28, 32) of different fineness, as in cols. 2 – 3.

19. With respect to claim 4, Kasten discloses the filter plate (26) having an inlet (pores at the outer surface of outermost layer 28) for the fluid to be filtered and the fineness of the fabric layers (28, 32) of the laminar structure increasing towards the filter plate inlet, as in col. 3.

20. Concerning claim 6, Kasten also discloses a terminal fabric layer (28) on the inlet side being connected to a filter medium contact surface (i.e. outer sealing edge) of the filter plate body (core and innermost layer 32, 30), as in fig. 6.

21. Regarding claim 8, Kasten further discloses the at least one (i.e. 28) of the fabric layers being made of metal (in particular, stainless steel mesh) fabric, as in cols. 2 – 3.

22. With regards to claim 13, Kasten discloses a method of producing a filter plate according to claim 1 (see paragraph 19 above) comprising the step of connecting the filter

medium arrangement (28, 30) to the filter plate body (innermost mesh 32 of core 30) by welding (a form of bonding), as in cols. 1 – 4 and figs. 6 - 7.

23. Claims 1 – 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Pall et al. (US 4,902,420).

24. With respect to claim 1, Pall et al. disclose a filter plate (1) comprising a body (2, 9, 11) having at least one flow path for fluid to be filtered, and a filter medium arrangement (7, 6, 5, 4) arranged in the at least one flow path and connected to the body and the filter medium arrangement being connected to the body by welding bead (a form of bonding), as in cols. 5 – 9 and in figs. 1 & 4.

25. Concerning claim 2, Pall et al. also disclose the filter medium arrangement comprising at least one filter medium layer (7, 6, 5, 4) formed by a filter fabric (the term “fabric” has been defined by the examiner to be any suitable woven or nonwoven mesh or cloth-like material), as in cols. 5 - 8.

26. Regarding claim 3, Pall et al. further disclose the filter medium arrangement comprising a laminar structure of a plurality of fabric layers (6, 5, 4) of different fineness (porosity), as in cols. 5 – 8.

27. With respect to claim 4, Pall et al. disclose the filter plate (1) having an inlet (pores/openings at the outer surface of outermost layer 7) for the fluid to be filtered and the fineness of the fabric layers (6, 5, 4) of the laminar structure increasing towards the filter plate inlet, as in col. 5 - 8.

28. Regarding claim 5, Pall et al. disclose the laminar structure being additionally covered on the inlet side by a coarser fabric layer (7), as in figs. 1 & 7 and in cols. 5 - 8.

29. Concerning claim 6, Pall et al. also disclose a terminal fabric layer (7) on the inlet side being connected to a filter medium contact surface (i.e. inner sealing edge) of the filter plate body (hub 9, 11 and support plate 2), as in figs. 1 & 4 and cols. 5 - 6.

30. With regards to claim 7, Pall et al. disclose the additional coarser fabric layer (7) being connected to a filter medium contact surface (i.e. inner sealing edge) of the filter plate body (hub 9, 11 and support plate 2), as in figs. 1 & 4 and cols. 5 - 6.

31. With respect to claim 8, Pall et al. further disclose the at least one (7, 6, 5, 4) of the fabric layers being made of metal fabric, as in cols. 5 - 8.

32. Concerning claim 9, Pall et al. disclose the filter medium arrangement comprising at least one filter medium layer (5, 6) made of a porous sintered material (i.e. sintered particulate porous stainless steel medium such as PSS, marketed by Pall Corp.), as in col. 8, lines 25 – 50.

33. With respect to claim 10, Pall et al. also disclose the at least one filter medium layer (5, 6) being made of sintered metal (i.e. sintered stainless steel), as in col. 8, lines 25 – 50.

34. Regarding claim 11, Pall et al. disclose the filter medium arrangement comprising a laminar structure of a plurality of layers (7, 6, 5) of sintered material of different fineness, as in col. 8.

35. With regards to claim 12, in this particular claim, the limitation “the filter plate inlet” lacks proper antecedent basis. Pall et al. further disclose the fineness of the layers (7, 6, 5) of sintered material in the laminar structure increasing in the direction of a filter plate inlet (i.e. towards the inlet surface of coarse layer 7), as in cols. 5 – 8 and figs. 1 & 4.

36. Concerning claim 13, Pall et al. disclose a method of producing a filter plate (1) according to claim 1 (see paragraph 24 above) comprising the step of connecting the filter medium arrangement (7, 6, 5, 4) to the filter plate body (2, 11, 9) by welding (a form of bonding), as in cols. 5 - 8 and figs. 1 & 4.

Claim Rejections - 35 USC § 103

37. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

38. Claims 14 - 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pall et al. (420) in view of Arterbury et al. (US 5,293,935).

39. Regarding claims 14 - 15, Pall et al. (420) has disclosed that the filter medium arrangement further comprising at least one of a filter fabric layer and a layer of sintered material, in the form of a sintered metal layer (5, 6) of stainless steel medium, as in col. 8, but fail to disclose the method step of subjecting the filter plate body and/or the filter fabric layer and/or layer of sintered material to a surface treatment prior to connection thereof (claim 14), wherein the surface treatment comprising electropolishing (claim 15). Arterbury et al. teach a method of producing a filter element (i.e. 42, a filter sheet/screen of stainless steel medium wound around a mandrel) which could be formed into a filter plate (circular configuration)

comprising a layer of sintered (screen formed of unitary porous body of sintered metal, particularly of stainless steel), similar to that filter plate/medium of Pall et al., wherein the method including subjecting the filter screen/layer of sintered material to a surface treatment such as electropolishing, as in cols. 5 – 7. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the method of Pall et al, by adding the step taught by Arterbury et al., in order to provide an improved filter element for the method of Pall et al., which has a smoother and brighter surface and increased pore size. This type of filter element (i.e. with a smoother and brighter surface and an increased pore size) decreases the clogging of the filter elements and allows the elements to be easily cleaned and backwashed easily.

40. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pall et al. (420) in view of Fendya et al. (US 5,679,249).

42. With regards to claim 18, Pall et al. teach a method of using at least one filter plate (1) according to claim 1 (see paragraph 24 above) comprising the step of incorporating the filter plate into a filter for fine filter media to separate fine solids from suspensions by pressure filtration, as in cols. 1 – 5. Pall et al. fail to disclose the filter being *a rotary filter*. Fendya et al. teach a method of using at least one filter plate (148), similar to that of Pall et al., comprising the step of incorporating said filter plate (148) into a rotary filter (101, 105) for fine filter media (162) to separate fine solids from suspensions by pressure or vacuum filtration or combined vacuum-pressure filtration, as in cols. 1 – 20. It is considered obvious to one of ordinary skill in

the art at the time of the invention to modify the method of Pall et al. by adding the step taught by Fendya et al., in order to provide an improved filtering method thereby providing an improved filter element which is capable not only of removing fine solids from suspensions (such as in polymer processing or treatment of any viscous materials) but capable of withstanding high pressure conditions in rotary filters.

Allowable Subject Matter

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43. Claims 16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

44. The following is a statement of reasons for the indication of allowable subject matter: none of the prior art used in the rejections above and those searched, have disclosed or rendered obvious a method of producing a filter plate according to claims 13 – 14 wherein the surface treatment comprises provision of a dirt-repellant surface coating, as in claim 16 and further the method comprising the step of subjecting an inlet side surface of the filter medium arrangement to finish-dressing and/or finish grinding after connection of the filter plate body and the filter medium arrangement, as in claim 17.

Conclusion

45. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents 4,889,631 (Rigby et al.), 6,117,322 (Miller et al.), 6,318,565 B1 (Diemer et al.), 5,059,326 (Haerle) and 2,444,147 (Walton).

46. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne S. Ocampo whose telephone number is (703) 305-1039. The examiner can normally be reached on Mondays to Fridays from 8:00 A.M. to 4:30 P.M..

47. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on (703) 308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

48. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

M.S.O.
M.S.O.
April 6, 2003

Joseph Drodge
JOSEPH DRODGE
PRIMARY EXAMINER